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Appl. No. 09/866,226
Amdt. dated January 18, 2007
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 2157

PATENT**REMARKS/ARGUMENTS**

This Amendment is in response to the Office Action mailed October 19, 2006. Claims 1, 3, 5, 7, 9, 11, 13, and 15 were pending in the present application. This Amendment amends claims 1, 3, 5, 7, 9, 11, 13, and 15, without adding or canceling any claims, leaving pending in the application claims 1, 3, 5, 7, 9, 11, 13, and 15. Reconsideration of the rejected claims is respectfully requested.

I. Rejection under 35 U.S.C. §103

It is respectfully submitted that the headings of the §103(a) obviousness rejections on pages 2 and 7 are incorrect, as they refer to canceled claims and do not include all references cited in the rejections. As such, this response will address the actual arguments set forth below the headings in an attempt to advance prosecution. If, however, such assumptions are incorrect, the Examiner is respectfully asked to contact the undersigned attorney so that a substitute amendment addressing the correct rejections can be prepared and submitted and abandonment of the present application can be avoided.

Claims 1 and 9 appear to be rejected under 35 U.S.C. §103(a) as being obvious over *Ronström* (US 6,438,707) in view of *Mutalk* (US 6,611,923) and *Kitagawa* (US 5,522,037). Applicants respectfully submit that these references do not teach or suggest each element of these claims.

For example, Applicants' claim 1 as amended recites a data duplicating method that connects a first information processing system comprised of a first host computer and a first storage device and at least one second information processing system comprised of a second host computer and a second storage device through a data transfer path and copies first update data generated in said first information processing system to said second information processing system,

wherein said first information processing system generates first difference control information for identifying any said first update data not copied to the second information processing system,

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wherein said second information processing system generates second difference control information for identifying second update data generated in said second information processing system after taking over information and data processing performed by said first information processing system when said first information processing system stops operating, and after resumption of operation of said first information processing system, the second information processing system reads the first difference information and executes a logical sum operation on the first difference information and the second difference information managed in the second information processing system, a result of the logical sum operation being reflected in the second difference control information, said second update data being selectively copied to said first information processing system on the basis of said second difference control information in which said logical sum is reflected,

wherein said difference control information is a bit map that indicates the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices

(*emphasis added*). Such limitations are neither taught nor suggested by these references.

Ronström teaches a fault tolerant computer system requiring a low communication load between a primary system and backup system, while maintaining a high level of synchronization (col. 1, lines 46-51). *Ronström* teaches restoring data and resuming operations by detecting a failure using a backup system or an event detection, but utilizes an archive copy to restore the failure (col. 11, lines 19-29). *Ronström* does not utilize difference information, as recognized in the Office Action on page 3, let alone first and second difference control information as recited in Applicants' claim 1. As such, *Ronström* cannot render obvious Applicants' claim 1.

Mutalik teaches storing backup data in multiple mirrors on a mass storage subsystem under control of a backup server (col. 2, lines 45-47), and is cited as teaching a backup server backing up a main mass storage system, then restoring the mass storage system if a malfunction occurs on the mass storage system (OA p. 3). Such teaching, even if obvious to combine with *Ronström*, would not make up for the deficiencies in *Ronström* with respect to Applicants' claim 1, as *Mutalik* fails to teach or suggest the use of first and second difference control information as recited in Applicants' claim 1. As such, *Mutalik* cannot render obvious Applicants' claim 1, either alone or in combination with *Ronström*.

Kitagawa teaches a backup system combining a whole backup and differential backups for a recovery process (col. 3, lines 10-15), and is cited as teaching updating a bit map table indicating the presence or absence of completion data duplication of said first and second update

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data at a plurality of individual units of data storage in each of said first and second data storage devices (OA p. 4). Such teaching, even if obvious to combine with *Ronström* and/or *Mutalik*, would not make up for the deficiencies in *Ronström* and *Mutalik* with respect to Applicants' claim 1, as *Kitagawa* fails to teach or suggest the use of first and second difference control information as recited in Applicants' claim 1. As such, *Kitagawa* cannot render obvious Applicants' claim 1, either alone or in any combination with *Ronström* and *Mutalik*. Claim 9 recites limitations that similarly are not disclosed or suggested by these references for reasons including those discussed above. Applicants therefore respectfully request that the rejections with respect to claims 1 and 9 be withdrawn.

Claims 3, 5, 7, 11, 13, and 15 appear to be rejected under 35 U.S.C. §103(a) as being obvious over *Ronström* in view of *Mutalik*, *Kitagawa*, and *Yanai* (US 5,544,347). Applicants respectfully submit that these references do not teach or suggest each element of these claims. Claims 3, 5, 7, 11, 13, and 15 recite limitations that are not rendered obvious by any combination of *Ronström*, *Mutalik*, and *Kitagawa*, for reasons including those discussed above. *Yanai* does not make up for the deficiencies in these references with respect to any of these claims.

Yanai teaches the use of a geographically remote mirrored data storage system that contains generally identical information to that contained on a primary data storage system (col. 3, line 65-col. 4, line 5), and is cited as teaching a data backup system with different ways of data transfer such as synchronously copying first update data generated in said first information processing system to said second information processing system. Such teaching, even if obvious to combine with *Ronström*, *Mutalik*, and/or *Kitagawa*, would not make up for the deficiencies in *Ronström*, *Mutalik*, and/or *Kitagawa* with respect to these claims, as *Yanai* fails to teach or suggest the use of first and second difference control information as recited therein. As such, *Yanai* cannot render obvious these claims, either alone or in any combination with *Ronström*, *Mutalik*, and/or *Kitagawa*. Applicants therefore respectfully request that the rejections with respect to claims 3, 5, 7, 11, 13, and 15 be withdrawn.

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II. Amendment to the Claims

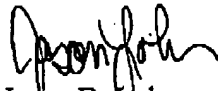
Unless otherwise specified, amendments to the claims are made for purposes of clarity, and are not intended to alter the scope of the claims or limit any equivalents thereof. The amendments are supported by the specification and do not add new matter.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,


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